QUIZ NAVIGATION

Rose Wang

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Started on	Friday, 11 October 2024, 3:47 AM
State	Finished
Completed on	Friday, 11 October 2024, 3:59 AM
Time taken	11 mins 44 secs
Marks	7.0/10.0
Grade	**70.0** out of 100.0

Question 1

ID: 50154

Correct

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SK is a 38-year-old male with newly diagnosed ADHD. Four weeks ago, his physician had started him on methylphenidate (Biphentin®) 20 mg PO daily every morning. SK takes his medication at 11 am every morning when he gets his first break at work. He reports that the medication has been helping with his ADHD symptoms, however, since starting the medication, he has been having difficulties falling asleep and staying asleep throughout the night. He feels very tired when he wakes up in the mornings and because of this has not been functioning properly at work. He has no other medical conditions nor does he take any other medications.

Which of the following suggestions are **NOT** appropriate to help manage SK's insomnia?

Select one:

a. Take methylphenidate (Biphentin®) earlier in the day ✖

b. Switch methylphenidate (Biphentin®) to methylphenidate (Foquest®) because of its shorter duration of action ✔

Rose Wang (ID:113212) this answer is correct. Methylphenidate (Foquest®) might have a slightly longer duration of action than methylphenidate (Biphentin®), therefore, this is not an effective strategy to reduce insomnia.

c. Switch methylphenidate (Biphentin®) to methylphenidate sustained-release (Ritalin SR®) because of its shorter duration of action ✖

d. Consider a sedative medication taken at bedtime for the short term ✖

Correct

Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:

Understand how to manage insomnia induced by stimulant treatment for ADHD.

BACKGROUND:

Stimulants used for the treatment of ADHD have many side effects including decreased appetite/weight loss, upset stomach, insomnia, headache, psychiatric symptoms (e.g. anxiety, irritability, insomnia, tics), rebound symptoms, growth suppression, suicidal ideation, and significant changes to blood pressure and heart rate. Some adverse effects are transient and will go away in a few weeks whereas others may need to be managed. Insomnia may present at any time throughout stimulant therapy, however, it is especially prevalent during the beginning of treatment. Generally, it will resolve over time on its own. Strategies used to manage stimulant-induced insomnia include giving the dose earlier in the day, decreasing the last dose of the day (or giving it earlier in the evening), adding a sedating medication (e.g. diphenhydramine, melatonin) at bedtime for a short period of time, or changing the formulation from a long-acting one (10-14 hour duration) to an intermediate-acting one (8-12 hour duration).

RATIONALE:

Correct Answer:

- **Switch methylphenidate (Biphentin®) to methylphenidate (Foquest®) because of its shorter duration of action** - Methylphenidate (Foquest®) might have a slightly longer duration of action than methylphenidate (Biphentin®), therefore, this is not an effective strategy to reduce insomnia.

Incorrect Answers:

- **Take methylphenidate (Biphentin®) earlier in the day** - Taking stimulants earlier in the day is a recommended strategy to reduce insomnia.
- **Switch methylphenidate (Biphentin®) to methylphenidate sustained-release (Ritalin SR®) because of its shorter duration of action** - Methylphenidate (Ritalin SR®) has a shorter duration of action than methylphenidate (Biphentin®), therefore, this is a recommended strategy to reduce insomnia.
- **Consider a sedative medication taken at bedtime for the short term** - A sedating medication (e.g. diphenhydramine, melatonin) may be trialed in the short term until insomnia resolves.

TAKEAWAY/KEY POINTS:

Strategies used to manage stimulant-induced insomnia include giving the dose earlier in the day, decreasing the last dose of the day (or giving it earlier in the evening), adding a sedating medication (e.g. diphenhydramine, melatonin) at bedtime for a short period of time, or changing the formulation from a long-acting one (10-14 hour duration) to an intermediate-acting one (8-12 hour duration).

REFERENCE:

[1] Canadian Attention Deficit Hyperactivity Disorder Resource Alliance (CADDRA). Canadian ADHD practice guidelines. 4th ed. Toronto (ON): CADDRA; 2018.

The correct answer is: Switch methylphenidate (Biphentin®) to methylphenidate (Foquest®) because of its shorter duration of action

Question 2

ID: 50161

Correct

Flag question

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TP is a 20-year-old male who was recently initiated on lisdexamfetamine (Vyvanse®) 20 mg PO daily every morning for ADHD two weeks ago. He reports that over the past two weeks, he has not noticed any changes in his ADHD symptoms and is still having difficulties focusing in school. He has his midterm exams coming up in a few weeks and wants to do really well on them. TP's blood pressure reading today is 165/95 mmHg compared to 135/85 mmHg prior to starting the medication. His heart rate is also elevated from 65 bpm to 85 bpm. He asks you if he can increase the dose of his lisdexamfetamine (Vyvanse®) for better effect.

Which of the following suggestions is the most appropriate for TP at this time?

Select one:

a. Increase the dose of lisdexamfetamine (Vyvanse®) to 30 mg PO daily ✖

b. Add guanfacine daily to lisdexamfetamine (Vyvanse®) ✖

c. Add atomoxetine to lisdexamfetamine (Vyvanse®) ✖

d. Discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist ✔

Rose Wang (ID:113212) this answer is correct. TP is experiencing a significant elevation of blood pressure and heart rate and should discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist.

Correct

Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorder

LEARNING OBJECTIVE:

Understand how to manage elevated blood pressure and heart rate induced by stimulant treatment for ADHD.

BACKGROUND:

Blood pressure and heart rate should be monitored throughout the course of stimulant therapy for ADHD. ADHD stimulants can lead to a small increase in heart rate (average 5-10 beats/min.) and systolic blood pressure (average 4-6 mmHg). However, some patients can have much higher effects. This can increase a patient's risk of sudden cardiovascular death. Patients should have baseline blood pressure, heart rate, and ECG measures prior to initiating stimulants. Routine ECG is not recommended but should be considered for those with strong cardiac risk factors (e.g. congenital cardiac abnormalities). Suggest monitoring blood pressure and heart rate in the first 2 weeks of treatment and then every 3 months. Discontinue medication and refer to a cardiologist if patients have significant changes in blood pressure, heart rate, and/or ECG.

RATIONALE:

Correct Answer:

- **Discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist** - TP is experiencing a significant elevation of blood pressure and heart rate and should discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist.

Incorrect Answers:

- **Increase the dose of lisdexamfetamine (Vyvanse®) to 30 mg PO daily** - TP is experiencing a significant elevation of blood pressure and heart rate and should not have his dose increased at this time.
- **Add guanfacine daily to lisdexamfetamine (Vyvanse®)** - TP is experiencing a significant elevation of blood pressure and heart rate and should discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist. Although guanfacine may help with decreasing blood pressure and heart rate, it is only indicated for ADHD in children aged 6 to 17 years.
- **Add atomoxetine to lisdexamfetamine (Vyvanse®)** - TP is experiencing a significant elevation of blood pressure and heart rate and should discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist.

TAKEAWAY/KEY POINTS:

If there are significant changes in blood pressure, heart rate, and/or ECG, the ADHD stimulant should be discontinued and the patient referred to a cardiologist. A significant change is roughly defined as an increase in systolic blood pressure greater than 4-6 mmHg or an increase in heart rate greater than 5-10 beats/min.

REFERENCE:

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.

The correct answer is: Discontinue lisdexamfetamine (Vyvanse®) and be assessed by a cardiologist

Question 3
ID: 50172
Correct
Flag question
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FL is a 14-year-old female who has been newly diagnosed with ADHD by her family physician. FL's past medical history is significant for heavy menstrual bleeding for which she takes tranexamic acid 1000 mg PO TID for 5 days during menstruation and anemia for which she takes ferrous fumarate 300 mg PO once daily. Her physician recently measured her lab values, as shown below:

- **Hgb = 135 (130 - 170)**
- **HCT = 0.40 (0.37 - 0.46)**
- **MCV = 82.4 (80 - 100)**
- **Ferritin = 20 mcg/L (11 - 307)**
- **Serum iron = 15 mcmol/L (11 - 32)**
- **TIBC = 80 mcmol/L (45 - 82)**
- **Transferrin saturation = 30% (25 - 40%)**
- **CRP = 2 mg/L (<8)**
- **Vitamin B12 = 247 pmol/L (133 - 674)**
- **Folate = 22 nmol/L (>15)**

FL's physician is happy with her anemia treatment and believes that it is well-controlled with the current regimen. He is considering starting her on stimulant therapy for ADHD but does not want to prescribe anything that may affect her current medications. FL takes ferrous fumarate on an empty stomach in the morning with a full glass of orange juice to help with absorption.

All of the following stimulants can be taken in the morning with orange juice without affecting drug absorption, **EXCEPT**:

Select one:

a. Dextroamphetamine (Dexedrine®) delayed-release spansules ✔

Rose Wang (ID:113212) this answer is correct. The absorption of dextroamphetamine (Dexedrine®) delayed-release spansules is reduced by vitamin C co-administration.

b. Lisdexamfetamine (Vyvanse®) capsules ✖

c. Methylphenidate (Concerta®) tablets ✖

d. Methylphenidate (Foquest®) capsules ✖

Correct
Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:

Understand the interaction that exists between some amphetamine-based stimulants and acidic/alkaline products.

BACKGROUND:

Amphetamine-based stimulants include mixed amphetamine salts (Adderall®) extended-release capsules, dextroamphetamine (Dexedrine®) immediate-release tablets and delayed-release spansules, and lisdexamfetamine (Vyvanse®) capsules and chewable tablets. With amphetamine-based stimulants, acidifying products such as vitamin C may decrease absorption and increase elimination whereas alkalizing products such as sodium bicarbonate can increase absorption and decrease elimination. These interactions can have clinical effects by decreasing or increasing the efficacy of the medications, respectively. However, because lisdexamfetamine (Vyvanse®) is a prodrug, its absorption is not affected by acidic or alkaline products. Its excretion can still be increased in the presence of acidifying products and decreased in the presence of alkalizing products.

RATIONALE:

Correct Answer:

- **Dextroamphetamine (Dexedrine®) delayed-release spansules** - The absorption of dextroamphetamine (Dexedrine®) delayed-release spansules is reduced by vitamin C co-administration.

Incorrect Answers:

- **Lisdexamfetamine (Vyvanse®) capsules** - The absorption of lisdexamfetamine (Vyvanse®) capsules is not reduced by vitamin C co-administration.
- **Methylphenidate (Concerta®) tablets** - The absorption of methylphenidate (Concerta®) tablets is not reduced by vitamin C co-administration.
- **Methylphenidate (Foquest®) capsules** - The absorption of methylphenidate (Foquest®) capsules is not reduced by vitamin C co-administration.

TAKEAWAY/KEY POINTS:

Acidifying products such as vitamin C may decrease absorption and increase elimination of mixed amphetamine salts (Adderall®) and dextroamphetamine (Dexedrine®) whereas alkalizing products such as sodium bicarbonate can increase absorption and decrease elimination.

REFERENCE:

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.

The correct answer is: Dextroamphetamine (Dexedrine®) delayed-release spansules

The correct answer is: Dextroamphetamine (Dexedrine®) delayed-release spansules

Question 4
ID: 50210
Incorrect
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All of the following are potential side effects associated with stimulants **EXCEPT**:

Select one:

a. Decreased seizure threshold ✖
b. Unmasking of tics ✖
c. Psychosis ✖
d. Dyslipidemia ✔

Rose Wang (ID:113212) this answer is incorrect. Unmasking of tics is a potential side effect of stimulant therapy.

Incorrect
Marks for this submission: 0.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:
Identify potential side effects of stimulant therapy for ADHD.

BACKGROUND:
Common side effects of stimulant therapy for ADHD include insomnia, headache, nausea, vomiting, decreased appetite, dry mouth, decreased weight and height, increased blood pressure and heart rate, nasal congestion, and nasopharyngitis. Infrequent side effects of stimulant therapy for ADHD include sexual dysfunction, hallucinations, psychosis, aggression, suicidal thoughts, unmasking of tics, and decreased seizure threshold. Severe side effects of stimulant therapy for ADHD include sudden death associated with pre-existing cardiovascular disease, blood dyscrasias, priapism, and rhabdomyolysis. Precautions and contraindications for stimulant therapy for ADHD include a history of psychosis or mania, seizure disorder, atherosclerosis, uncontrolled blood pressure, uncontrolled hyperthyroidism, pheochromocytoma, narrow-angle glaucoma, and monoamine oxidase inhibitor (MAOI) use within 14 days.

RATIONALE:

Correct Answer:

- **Dyslipidemia** - Dyslipidemia is not a potential side effect of stimulant therapy.

Incorrect Answers:

- **Decreased seizure threshold** - Decreased seizure threshold is a potential side effect of stimulant therapy.
- **Unmasking of tics** - Unmasking of tics is a potential side effect of stimulant therapy.
- **Psychosis** - Psychosis is a potential side effect of stimulant therapy.

TAKEAWAY/KEY POINTS:
Stimulant therapy for ADHD is associated with many side effects, including decreased seizure threshold, an unmasking of tics, and psychosis. Stimulant therapy has not been associated with dyslipidemia.

REFERENCE:
[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.

The correct answer is: Dyslipidemia

Question 5
ID: 50216
Incorrect
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THE NEXT 3 QUESTIONS INCLUSIVE REFER TO THE FOLLOWING CASE:

WS is a 9-year-old male who visits your clinic with his mother for an assessment. During the assessment, you observe that WS is fidgeting in his seat, walking around the room, climbing on counters, and picking up different objects, all while making loud noises and interrupting your discussion with his mother. For approximately the past year, WS has been struggling in school and at home. His mother notes that he often makes careless mistakes and cannot focus on a single task for an extended period of time. It often seems that he is not listening when his mother or schoolteachers are speaking to him, and he is often easily distracted. WS's mother has already tried non-pharmacological treatment options including behavioural therapy but this has failed to control his symptoms.

Vital signs:

- **BP: 112/78 mmHg**
- **HR: 70 bpm**
- **Afebrile**

Weight: 29 kg (50th percentile for his age)

Allergies: NKDA

Social history:

- **Grade 4 student (attends class from 8:30 am to 3 pm)**
- **Previously played little league softball for 2 years**

Past medical history:

- **Insignificant**

Medications:

- **Children's chewable multivitamin 1 tablet PO daily (WS has difficulties swallowing tablets/capsules)**

Which of the following medications is the most appropriate to start WS on?

Select one:

- a. Methylphenidate (Ritalin®) sustained-release tablets ✖
  Rose Wang (ID:113212) this answer is incorrect. Methylphenidate (Ritalin®) sustained-release tablets must be swallowed whole and WS has difficulties swallowing tablets/capsules.
- b. Methylphenidate (Concerta®) tablets ✖
- c. Mixed amphetamine salts (Adderall®) extended-release capsules ✔
- d. Atomoxetine ✖

Incorrect

Marks for this submission: 0.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:

Compare administration techniques of various stimulants used for ADHD.

BACKGROUND:

According to the CADDRA 2018 guidelines, stimulants, regardless of their active ingredient or formulation, are comparable in efficacy. One of the primary differences between the various stimulants is their formulation. Significant portions of the ADHD population are children who are unable to swallow tablets/capsules. This has resulted in alternative administration techniques being designed for ADHD medications.

RATIONALE:

Correct Answer:

- **Mixed amphetamine salts (Adderall®) extended-release capsules** - Mixed amphetamine salts (Adderall®) extended-release capsules can be opened and contents sprinkled onto soft food.

Incorrect Answers:

- **Methylphenidate (Ritalin®) sustained-release tablets** - Methylphenidate (Ritalin®) sustained-release tablets must be swallowed whole and WS has difficulties swallowing tablets/capsules.
- **Methylphenidate (Concerta®) tablets** - Methylphenidate (Concerta®) tablets must be swallowed whole and WS has difficulties swallowing tablets/capsules.
- **Atomoxetine** - Atomoxetine is not recommended first-line for the treatment of ADHD.

TAKEAWAY/KEY POINTS:

Stimulants used for the treatment of ADHD come in many formulations. Methylphenidate (Ritalin®) sustained-release tablets must be swallowed whole. Methylphenidate (Concerta®) tablets must be swallowed whole and cannot be crushed, opened or chewed. Atomoxetine is not a recommended first-line treatment option for ADHD. Mixed amphetamine salts (Adderall®) extended-release capsules can be opened and contents sprinkled onto soft food (e.g. applesauce, ice cream, yogurt) that must be eaten immediately without chewing.

REFERENCE:

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.

The correct answer is: Mixed amphetamine salts (Adderall®) extended-release capsules

Question 6

ID: 50220

Incorrect

Flag question

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WS's mother asks you how long they should try mixed amphetamine salts (Adderall®) extended-release capsules.

The minimum duration for a trial period of a stimulant is:

Select one:

- 2 weeks ✖
  Rose Wang (ID:113212) this answer is incorrect. This is too short of a time frame to assess the clinical response of ADHD symptoms.
- 3 weeks ✔
- 8 weeks ✖

- 12 weeks ✖

Incorrect

Marks for this submission: 0.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:

Understand the minimum duration of stimulant therapy required to determine if therapy is effective.

BACKGROUND:

Attention-deficit hyperactivity disorder (ADHD) is a common neuropsychiatric disorder that often initially presents in children and can persist into adulthood. It is characterized by impulsiveness, hyperactivity, and inattention. The pathophysiology is thought to be related to the dysfunction of dopamine and norepinephrine pathways in the brain. Pharmacological therapy includes the use of stimulants and/or adjunctive therapies (e.g., norepinephrine reuptake inhibitors, alpha-2-adrenergic agonists). The onset of effect of a stimulant is usually 1-2 weeks, thus a trial of 3-4 weeks is adequate to assess effectiveness.

RATIONALE:

Correct Answer:

- **3 weeks** - At 3 to 4 weeks, the clinical response of ADHD symptoms should be assessed. If there is a partial improvement, then the stimulant dose can be increased as appropriate.

Incorrect Answers:

- **2 weeks** - This is too short of a time frame to assess the clinical response of ADHD symptoms.
- **8 weeks** - This is too long of a time frame to assess the clinical response of ADHD symptoms.
- **12 weeks** - This is too long of a time frame to assess the clinical response of ADHD symptoms.

TAKEAWAY/KEY POINTS:

The onset of effect of a stimulant is usually 1-2 weeks, thus a trial of 3-4 weeks is adequate to assess effectiveness.

REFERENCE:

[1] Canadian Attention Deficit Hyperactivity Disorder Resource Alliance (CADDRA). Canadian ADHD practice guidelines. 4th ed. Toronto (ON): CADDRA; 2018.

The correct answer is: 3 weeks

Question 7

ID: 50225

Correct

Flag question

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4 weeks later, you receive a phone call from WS's pediatrician. She tells you that WS is now taking mixed salt amphetamines (Adderall®) extended-release capsules 30 mg PO daily in the morning. WS has shown a partial improvement in his ADHD symptoms, however, the stimulant may have unmasked a tics disorder. WS is displaying sudden, repetitive twitches in his face with involuntary, uncontrollable blinking. WS's mother is very upset by these side effects. WS's pediatrician asks you for your recommendation.

Which of the following strategies is the most appropriate to suggest at this time?

Select one:

a. Increase the dose of mixed amphetamine salts (Adderall®) since WS had a partial response ✖

b. Stop mixed amphetamine salts (Adderall®) immediately since it is the offending agent ✖

c. Taper mixed amphetamine salts (Adderall®), teach WS how to swallow medications and start atomoxetine ✔

Rose Wang (ID:113212) this answer is correct. Mixed salt amphetamines (Adderall®) should be tapered and WS should be started on non-stimulant atomoxetine for his ADHD symptoms.

d. Add an antipsychotic to treat the tics disorder and continue mixed amphetamine salts (Adderall®) ✖

Correct

Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:

Understand how to manage psychiatric symptoms associated with stimulant treatment for ADHD.

BACKGROUND:

Stimulants used for the treatment of ADHD have many side effects including decreased appetite/weight loss, upset stomach, insomnia, headache, psychiatric symptoms (e.g. anxiety, irritability, insomnia, tics), rebound symptoms, growth suppression, suicidal ideation, and significant changes to blood pressure and heart rate. Some adverse effects are transient and will go away in a few weeks whereas others may need to be managed. Tics may present at any time throughout stimulant therapy, however, it is especially prevalent during the beginning of treatment and with dose changes. Strategies used to manage tics associated with stimulant

beginning of treatment and with dose changes. Strategies used to manage tics associated with stimulant therapy include reducing the stimulant dosage or considering switching to non-stimulant atomoxetine (alternatively guanfacine or clonidine). Atomoxetine is preferred over stimulants in patients who have tics disorder and Tourette's syndrome.

RATIONALE:

Correct Answer:

- **Taper mixed amphetamine salts (Adderall®), teach WS how to swallow medications and start atomoxetine** - Mixed salt amphetamines (Adderall®) should be tapered and WS should be started on non-stimulant atomoxetine for his ADHD symptoms.

Incorrect Answers:

- **Increase the dose of mixed amphetamine salts (Adderall®) since WS had a partial response** - Mixed salt amphetamines (Adderall®) are associated with tics and should not be increased even though WS has shown a partial response.
- **Stop mixed amphetamine salts (Adderall®) immediately since it is the offending agent** - Mixed salt amphetamines (Adderall®) should not be stopped abruptly without tapering to avoid withdrawal symptoms.
- **Add an antipsychotic to treat the tics disorder and continue mixed amphetamine salts (Adderall®)** - Mixed salt amphetamines (Adderall®) are associated with tics and should not be continued without a dose decrease.

TAKEAWAY/KEY POINTS:

Tics may present at any time throughout stimulant therapy, however, it is especially prevalent during the beginning of treatment and with dose changes. Strategies used to manage tics associated with stimulant therapy include reducing the stimulant dosage or considering switching to non-stimulant atomoxetine (alternatively guanfacine or clonidine). Atomoxetine is preferred over stimulants in patients who have tics disorder and Tourette's syndrome.

REFERENCE:

[1] Canadian Attention Deficit Hyperactivity Disorder Resource Alliance (CADDRA). Canadian ADHD practice guidelines. 4th ed. Toronto (ON): CADDRA; 2018.

The correct answer is: Taper mixed amphetamine salts (Adderall®), teach WS how to swallow medications and start atomoxetine

Question 8

ID: 50242

Correct

Flag question

Send Feedback

BR is a 12-year-old female who visits your pharmacy with her father. BR's father says that their new family physician has faxed a prescription for a new ADHD medication for his daughter. You check the faxes and see a script for methylphenidate (Biphentin®) 20 mg PO daily in the morning. You pull up BR's medication profile on your computer and notice that she has a history of generalized tonic-clonic seizures and is currently taking valproic acid. When you ask BR's father about her seizures, he tells you that they started recently about 3 months ago and have finally stabilized on valproic acid. You notice that the valproic acid is prescribed by BR's pediatrician and not by their family physician.

Which of the following options is the most appropriate regarding BR's new medication?

Select one:

- Dispense methylphenidate (Biphentin®) to treat BR's ADHD symptoms ✖
- Contact BR's family physician to discuss alternative treatment options ✔

  Rose Wang (ID:113212) this answer is correct. BR's new family physician may be unaware that BR has a history of generalized tonic-clonic seizures and is taking valproic acid.
- Contact BR's pediatrician to change valproic acid to an alternate antiepileptic ✖
- Dispense a 1-week supply of methylphenidate (Biphentin®) while you contact the family physician and suggest BR **NOT** take valproic acid during this time ✖

Correct

Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorders

LEARNING OBJECTIVE:

Understand that stimulants have the potential to lower the seizure threshold.

BACKGROUND:

Common side effects of stimulant therapy for ADHD include insomnia, headache, nausea, vomiting, decreased appetite, dry mouth, decreased weight and height, increased blood pressure and heart rate, nasal congestion, and nasopharyngitis. Infrequent side effects of stimulant therapy for ADHD include sexual dysfunction, hallucinations, psychosis, aggression, suicidal thoughts, unmasking of tics, and decreased seizure threshold. Severe side effects of stimulant therapy for ADHD include sudden death associated with pre-existing cardiovascular disease, blood dyscrasias, priapism, and rhabdomyolysis. Precautions and contraindications for stimulant therapy for ADHD include a history of psychosis or mania, seizure disorder, atherosclerosis, uncontrolled blood pressure, uncontrolled hyperthyroidism, pheochromocytoma, narrow-angle glaucoma, and monoamine oxidase inhibitor (MAOI) use within 14 days. Stimulants must be used with caution in patients with a seizure disorder because they have been shown to decrease the seizure threshold thus increasing the risk of seizure. Second- and third-line agents used to treat ADHD such as atomoxetine,

guanfacine, clonidine, bupropion and tricyclic antidepressants have all been associated with increasing the risk of seizures as well. In patients with pre-existing seizure disorders, it is important that the risks of treatment do not outweigh the benefits of controlling ADHD symptoms.

RATIONALE:

Correct Answer:

- **Contact BR's family physician to discuss alternative treatment options** - BR's new family physician may be unaware that BR has a history of generalized tonic-clonic seizures and is taking valproic acid.

Incorrect Answers:

- **Dispense methylphenidate (Biphentin®) to treat BR's ADHD symptoms** - A stimulant can decrease the seizure threshold and make it more likely for BR to experience a seizure.
- **Contact BR's pediatrician to change valproic acid to an alternate antiepileptic** - Changing valproic acid to an alternative antiepileptic will not make a difference because a stimulant will still decrease the seizure threshold.
- **Dispense a 1-week supply of methylphenidate (Biphentin®) while you contact the family physician and suggest BR NOT take valproic acid during this time** - Stopping valproic acid is not recommended as it will increase BR's risk of experiencing a seizure, especially if this is done in addition to taking a stimulant.

TAKEAWAY/KEY POINTS:

Stimulants must be used with caution in patients with a seizure disorder because they have been shown to decrease the seizure threshold thus increasing the risk of seizures.

REFERENCE:

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.

The correct answer is: Contact BR's family physician to discuss alternative treatment options

Question 9

ID: 55490

Correct

Flag question

Send Feedback

You are a pharmacist working at a family health team clinic. A medical resident approaches you with a question regarding a mutual patient, RF. RF is a 32-year-old male with a past medical history significant for short gut syndrome following surgical resection of the small intestines 6 months ago. He has since recovered from the surgery and has been tolerating an oral diet. His medications include pantoprazole magnesium 40 mg PO daily and loperamide 4 mg PO STAT followed by 2 mg after each bowel movement PRN for occasional diarrhea. RF was diagnosed with ADHD during childhood and had been prescribed a stimulant. He had only recently stopped taking the medication because of his upcoming surgery. RF now complains that his ADHD symptoms have returned and he would like a stimulant to help manage them.

Which of the following stimulants should be avoided in RF?

Select one:

a. Methylphenidate (Biphentin®) capsules ✖

b. Methylphenidate (Foquest®) capsules ✖

c. Methylphenidate (Concerta®) tablets ✔

Rose Wang (ID:113212) this answer is correct. Methylphenidate (Concerta®) tablets should not be administered to patients with short gut syndrome.

d. Methylphenidate (Ritalin®) sustained-release tablets ✖

Correct

Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorder (ADHD)

LEARNING OBJECTIVE:

Identify which stimulant used to treat ADHD should not be used in patients with short gut syndrome.

BACKGROUND:

Methylphenidate (Concerta®) tablets do not appreciably change shape in the gastrointestinal tract. Therefore, methylphenidate (Concerta®) tablets should not be administered to patients with pre-existing gastrointestinal narrowing (pathological or iatrogenic, such as small bowel inflammatory disease, "short gut" syndrome due to adhesions or decreased transit time, past history of peritonitis, cystic fibrosis, chronic intestinal pseudo-obstruction, or Meckel's diverticulum). There have been rare reports of obstructive symptoms in patients with known strictures in association with the ingestion of other drugs in non-deformable controlled-release formulations. There have been very rare reports of obstructive symptoms associated with the use of methylphenidate (Concerta®) tablets in patients without known gastrointestinal stricture. Due to the controlled-release design, methylphenidate (Concerta®) tablets should only be used in patients who are able to swallow the tablets whole. An important patient counselling point with methylphenidate (Concerta®) tablets is that the shell may appear in the feces.

RATIONALE:

Correct Answer:

- **Methylphenidate (Concerta®) tablets** - Methylphenidate (Concerta®) tablets should not be administered to patients with short gut syndrome.

Incorrect Answers:

- **Methylphenidate (Ritalin®) sustained-release tablets** - Methylphenidate (Ritalin®) tablets should not be administered to patients with short gut syndrome.
- **Methylphenidate (Foquest®) capsules** - Methylphenidate (Foquest®) tablets should not be administered to patients with short gut syndrome.
- **Methylphenidate (Biphentin®) capsules** - Methylphenidate (Biphentin®) tablets should not be administered to patients with short gut syndrome.

TAKEAWAY/KEY POINTS:

Methylphenidate (Concerta®) tablets should not be administered to patients with short gut syndrome.

REFERENCE:

[1] Concerta. In: Compendium of Pharmaceuticals and Specialties. Ottawa, ON: Canadian Pharmacists Association. https://myrxtx.ca.

The correct answer is: Methylphenidate (Concerta®) tablets

Question 10

ID: 50313

Correct

Flag question

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The absorption of which of the following amphetamine-based stimulants used to treat ADHD is unaffected by acidic or alkaline products?

Select one:

a. Amphetamine mixed salts (Adderall®) extended-release capsules ✖

b. Dextroamphetamine (Dexedrine®) immediate-release tablets ✖

c. Dextroamphetamine (Dexedrine®) delayed-release spansules ✖

d. Lisdexamfetamine (Vyvanse®) capsules ✔

Rose Wang (ID:113212) this answer is correct. The absorption of lisdexamfetamine (Vyvanse®) capsules is not reduced by acidic products nor increased by alkaline products.

Correct

Marks for this submission: 1.0/1.0.

TOPIC: Attention-Deficit Hyperactivity Disorder

LEARNING OBJECTIVE:

Understand the interaction that exists between some amphetamine-based stimulants and acidic/alkaline products.

BACKGROUND:

Amphetamine-based stimulants include mixed amphetamine salts (Adderall®) extended-release capsules, dextroamphetamine (Dexedrine®) immediate-release tablets and delayed-release spansules, and lisdexamfetamine (Vyvanse®) capsules and chewable tablets. With amphetamine-based stimulants, acidifying products such as vitamin C may decrease absorption and increase elimination whereas alkalizing products such as sodium bicarbonate can increase absorption and decrease elimination. These interactions can have clinical effects by decreasing or increasing the efficacy of the medications, respectively. However, because lisdexamfetamine (Vyvanse®) is a prodrug, its absorption is not affected by acidic or alkaline products. Its excretion can still be increased in the presence of acidifying products and decreased in the presence of alkalizing products.

RATIONALE:

Correct Answer:

- **Lisdexamfetamine (Vyvanse®) capsules** - The absorption of lisdexamfetamine (Vyvanse®) capsules is not reduced by acidic products nor increased by alkaline products.

Incorrect Answers:

- **Amphetamine mixed salts (Adderall®) extended-release capsules** - The absorption of amphetamine mixed salts (Adderall®) extended-release capsules is reduced by acidic products and increased by alkaline products.
- **Dextroamphetamine (Dexedrine®) immediate-release tablets** - The absorption of dextroamphetamine (Dexedrine®) immediate-release tablets is reduced by acidic products and increased by alkaline products.
- **Dextroamphetamine (Dexedrine®) delayed-release spansules** - The absorption of dextroamphetamine (Dexedrine®) delayed-release spansules is reduced by acidic products and increased by alkaline products.

TAKEAWAY/KEY POINTS:

Since lisdexamfetamine (Vyvanse®) is a prodrug, its absorption is not affected by acidic or alkaline products unlike the other amphetamine-based stimulants used to treat ADHD.

REFERENCE:

[1] CADDRA - Canadian ADHD Resource Alliance: Canadian ADHD Practice Guidelines, 4.1 Edition, Toronto ON; CADDRA, 2020.

The correct answer is: Lisdexamfetamine (Vyvanse®) capsules

Finish review